George G. Vega Yon

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Education

- **Ph.D. in Biostatistics (with concentration in Stat. Comp.)** (2020)
  University of Southern California, USA
  Dissertation title:
  "Essays on Bioinformatics and Social Network Analysis: Statistical and Computational Methods for Complex Systems"

- **M.Sc. in Social Sciences (with concentration in Econometrics)** (2016)
  California Institute of Technology, USA

- **Master in Economics and Public Policy** (2011)
  Adolfo Ibáñez University, Chile

- **BS. in Business Administration** (with a minor in Political Science) (2010)
  Adolfo Ibáñez University, Chile

Professional Experience

- **University of Southern California, 2015–present** Department of Preventive Medicine *Research Programmer*. A senior staff member at USC's Department of Preventive Medicine, I work closely with both staff and students on various scientific projects. My responsibilities included: implement statistical methods using R/C++, analyze complex data using USC's High-Performance Computing cluster, conducting training sessions on statistical computing, and writing scientific papers.

- **Chilean Pension Supervisor, August 2011– August 2014** Research Division *Analyst*. Statistical and econometric analysis on the Chilean unemployment insurance, statistical software development, serving as a bridge between the IT and Research divisions.

- **Nodos Chile Social Network Analysis Ltda., January 2012–January 2014** *Partner*. Founding partner of one of the first applied SNA Consultancy Entrepreneurship in Chile.

- **Adolfo Ibáñez University, January 2011–June 2012.** School of Government *Adjunct Professor*. Taught Introductory courses of Economics, Microeconomics and Statistical computing with Stata.

- **Chilean Ministry of Social Planning, March 2011–December 2011.** Social Programs Monitoring *Analyst*. Survey and Analysis of the Government social programs supply and supporting the Monitoring Division with the Open-Data Initiative.

Publications and Work in progress (selected)

[1] **George G. Vega Yon**, Andrew Slaughter, and Kayla de la Haye. "Exponential random graph models for little networks". In: *Social Networks* (2020). Forthcoming.

[2] **George G.. Vega Yon**, Duncan C. Thomas, John Morrison, et al. "On the automatic annotation of gene functions using observational data and phylogenetic trees". In: *bioRxiv* (May 2020). URL: https://www.biorxiv.org/content/early/2020/05/14/2020.05.14.095687.

[3] Thomas W. Valente and **George G. Vega Yon**. "Diffusion/Contagion Processes on Social Networks". In: *Health Education & Behavior* (Feb. 2020), p. 109019812090149. URL: http://journals.sagepub.com/doi/10.1177/1090198120901497.

[4] Brooke M. Bell, Donna Spruijt-Metz, **George G. Vega Yon, et al.** "Sensing eating mimicry among family members". In: *Translational Behavioral Medicine* (2019).

[5] Kayla de la Haye, Heesung Shin, **George G. Vega Yon, et al.** "Smoking Diffusion through Networks of Diverse, Urban American Adolescents over the High School Period". In: *Journal of Health and Social Behavior* (2019).

[6] Thomas W. Valente, Heather Wipfli, and **George G. Vega Yon**. "Network influences on policy implementation: Evidence from a global health treaty". In: *Social Science and Medicine* (2019).

[7] **George G. Vega Yon** and Brian Quistorff. "parallel: A command for parallel computing". In: *The Stata Journal: Promoting communications on statistics and Stata* 19.3 (Sept. 2019), pp. 667–684. URL: http://journals.sagepub.com/doi/10.1177/1536867X19874242.

[8] **George G. Vega Yon** and Paul Marjoram. "fmcmc: A friendly MCMC framework". In: *Journal of Open Source Software* 4.39 (July 2019), p. 1427. URL: http://joss.theoj.org/papers/10.21105/joss.01427.

[9] **George G. Vega Yon** and Paul Marjoram. "slurmR: A lightweight wrapper for HPC with Slurm". In: *Journal of Open Source Software* 4.39 (July 2019), p. 1493. URL: https://joss.theoj.org/papers/10.21105/joss.01493.

[10] **George G. Vega Yon**. *Capital Necesario Unitario (CNU): Cálculo e Introducción Del Módulo de Stata CNU*. Working Papers 57. Superintendencia de Pensiones, Aug. 2014. URL: https://ideas.repec.org/p/sdp/sdpwps/57.html.

[11] Ximena Quintanilla, Isabel Poblete, George Vega, et al. *Estudio Actuarial de los Fondos del Seguro de Cesantía*. Tech. rep. 2013.

[12] Andrea Repetto and **George G. Vega Yon**. *El Impacto de un Alza en la Cotización Previsional: Pensiones, Salarios y Empleo*. Tech. rep. 2013.

[13] Jorge Fábrega Lacoa and **George G. Vega Yon**. "El impacto del rating televisivo sobre la actividad en Twitter: evidencia para Chile sobre la base del evento TELETÓN 2012". In: *Cuadernos.info* 33 (Dec. 2013), pp. 43–52. URL: http://cuadernos.info/index.php/CDI/article/view/533.

Software (selected)

[1] **George G. Vega Yon**. *rgexf: Build, Import and Export GEXF Graph Files* (2020). R package version 0.16.0. URL: https://CRAN.R-project.org/package=rgexf.
downloads 529K

[2] **George G. Vega Yon**, Thomas Valente. *netdiffuseR: Analysis of Diffusion and Contagion Processes on Networks* (2020). R package version 1.22.0. URL: https://github.com/USCCANA/netdiffuseR.
downloads 18K

[3] **George G. Vega Yon**, Kayla de la Haye. *ergmito: Exponential Random Graph Models for Small Networks* (2020). R package version 0.3-0. URL: https://cran.r-project.org/package=ergmito.
downloads 3126

[4] **George G. Vega Yon**. *slurmR: A Lightweight Wrapper for 'Slurm'* (2020). R package version 0.4-1. URL: https://CRAN.R-project.org/package=slurmR.

[5] **George G. Vega Yon**. *fmcmc: A friendly MCMC framework* (2020). R package version 0.3-0. URL: https://CRAN.R-project.org/package=fmcmc.

[6] **George G. Vega Yon**. *barry: your to-go motif accountant* (2020). C++ library version 0.0-1. URL: https://github.com/USCbiostats/barry.

[7] **George G. Vega Yon**. *pruner: Implementing the Felsenstein's Tree Pruning algorithm* (2020). C++ library version 0.0-1. URL: https://github.com/USCbiostats/pruner.

[8] **George G. Vega Yon**, Brian Quistorff. *parallel: Stata Module for Parallel Computing* (2019). Stata Module version 1.20.0. URL: https://github.com/gvegayon/parallel.

[9] **George G. Vega Yon**. *aphylo: Statistical Inference of Annotated Phylogenetic Trees* (2019). R package version 0.1.99. URL: https://github.com/USCbiostats/phylogenetic.

[10] **George G. Vega Yon**. *netplot: Beautiful graph drawing* (2019). R package version 0.0.9000. URL: https://github.com/USCCANA/netplot.

[11] **George G. Vega Yon**. *googlePublicData: Working with Google's 'Public Data Explorer' DSPL Metadata Files* (2017). R package version 0.16.1. URL: https://CRAN.R-project.org/package=googlePublicData.

[12] **George G. Vega Yon**, Enyelbert Muñoz. *ABCoptim: Implementation of Artificial Bee Colony (ABC) Optimization* (2017). R package version 0.15.0. URL: https://CRAN.R-project.org/package=ABCoptim.

[13] **George G. Vega Yon**. *twitterreport: Out-of-the-box analysis and reporting tools for twitter* (2016). R package version 0.16. URL: https://doi.org/10.5281/zenodo.44528.

Conferences and Presentations

[1] **George Vega Yon**. "ERGMito Statistical Models for Small Team Social Networks". In: presented at SciTS 2020. (talk, slides/video). June 2020.

[2] **George Vega Yon**. "Essays on Bioinformatics and Social Network Analysis: Statistical and Computational Methods for Complex Systems". In: presented at Doctoral Defense. (talk, slides). June 2020.

[3] **George Vega Yon**. ""Predicción de funciones genéticas utilizando evidencia experimental y árboles filogenéticos: Un modelo evolutivo" o "Ciencia de datos en la práctica"". In: presented at Seminario de Ingeniería Matemática y Computacional. (talk, slides). Apr. 2020.

[4] **George Vega Yon**. "Essays on Bioinformatics and Social Network Analysis Statistical and Computational Methods for Complex Systems". In: presented at Biostats Seminars. (talk, slides/video). Jan. 2020.

[5] **George Vega Yon**. "slurmR workshop". In: presented at Happy Scientist Semminar Series. (workshop, slides). Jan. 2020.

[6] **George Vega Yon**. "Happy Scientist Seminar: Research Pipelines". In: presented at Happy Scientist Seminar. (talk, slides). Oct. 2019.

[7] **George Vega Yon**. "A Brief Introduction to Using R for High-Performance Computing". In: presented at Orange County R Users Group. (talk, slides/video). Aug. 2019.

[8] **George Vega Yon**. "Exact Statistics and Semi-Parametric Tests for Small Network Data". In: presented at IC2S2, 2019. (talk, slides). July 2019.

[9] **George Vega Yon**. "What drives social networks? A gentle introduction to exponential random graph models (with a focus on small networks)". In: presented at East LA R User Group. (talk, slides). June 2019.

[10] **George Vega Yon**. "Exact Statistics and Semi-Parametric Tests for Small Network Data". In: presented at Sunbelt 2019. (talk, slides). June 2019.

[11] **George Vega Yon**. "Big Problems for Small Networks: Statistical Analysis of Small Networks and Team Performance". In: presented at Invited speaker at SONIC. (talk, slides/video). Mar. 2019.

[12] **George Vega Yon**. "Small network statistics for the network science of teams". In: presented at NetSciX 2019, SCL. (talk, slides). Jan. 2019.

[13] **George Vega Yon**. "Overview of Social Network Models". In: (talk, slides). Dec. 2018.

[14] **George Vega Yon**. "Estadística de Redes y Econometria Espacial (con R)". In: presented at IMFD Summer School. (talk, slides/video). Dec. 2018.

[15] **George Vega Yon**. "Computacion de Alto Rendimiento con R". In: presented at satRday Santiago 2018. (workshop, slides). Dec. 2018.

[16] **George Vega Yon**. "A brief introduction to using R for high-performance computing". In: presented at East LA R User Group. (talk, slides). Nov. 2018.

[17] **George Vega Yon**. "Big Problems for Small Networks: Small Network Statistics". In: presented at NASN 2018, DC. (talk, slides). Nov. 2018.

[18] **George Vega Yon**. "R Bootcamp for Scientific Computing 2018". In: presented at R Bootcamp for Scientific Computing. (workshop, slides). Aug. 2018.

[19] **George Vega Yon**. "Introduction to R (for HPC users)". In: presented at USC's HPCC workshop. (workshop, slides). July 2018.

[20] **George Vega Yon**. "Intro to R". In: presented at USC's HPCC workshop. (workshop, slides). July 2018.

[21] **George Vega Yon**. "Uncomplicated Parallel Computing with Stata". In: presented at Stata Conference 2017. (talk, slides). July 2017.

[22] **George Vega Yon**. "Understanding Diffusion with netdiffuseR". In: presented at NASN 2017. (workshop, slides). July 2017.

[23] **George Vega Yon**. "Reproducible Research". In: presented at HBR Students talk. (talk, slides). Sept. 2016.

[24] **George Vega Yon**. "Network Diffusion of Innovations in R: Introducing netdiffuseR". In: presented at IC2S2, 2016. (poster, slides). June 2016.

[25] **George Vega Yon**. "Network Diffusion of Innovations in R: Introducing netdiffuseR". In: presented at useR! 2016. (talk, slides/video). June 2016.

[26] **George Vega Yon**. "Understanding Diffusion with netdiffuseR". In: presented at Sunbelt Conference, 2016. (workshop, slides/video). Mar. 2016.

[27] **George Vega Yon**. "Just tired of endless loops! or parallel: Stata module for parallel computing". In: presented at Stata Conference, 2013. (talk, slides). July 2013.

Honors and Services to the Profession

Awards

Travel Grant, Society of Young Network Scientist, 2019.

Fellowship, California Institute of Technology, 2014.

Honorable Mention (Posters Session) Chilean Economics Society, 2012.

Scholarship, Universidad Adolfo Ibáñes, 2006

Peer Reviewer

The Official Journal of The Society for Computational Economics

The R Journal

Social Networks

Journal of Mathematical Sociology

Journal of Open Source Software

International Conference on Computational Social Science (2019)

International Conference on Computational Social Science (2020)

SUNBELT Conference (2016)

Book reviewer

"Microeconometrics and Matlab: An Introduction", by Adams, Clarke and Quinn, Oxford University Press, 2015.

"Mastering Gephi Network Visualization", by Ken Cherven, Packt Publishing, 2015.

"Network Graph Analysis and Visualization with Gephi", by Ken Cherven, Packt Publishing, 2013.

Misc

Founder of the (first) R Users Group in Chile (2013)

Co-organizer of the East LA R User Group (LAERUG).

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